

Notice of Allowability

Application No.

10/522,701

Examiner

Dai A. Phuong

Applicant(s)

EVANS ET AL.

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/26/2007.
2. ☒ The allowed claim(s) is/are 1-16, 18 and 19.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

DETAILED ACTION

1. This is in response to the Applicant's amendments and arguments filed on 10/26/2007 in which claim 17 has been canceled. Claims 1-16 and 18-19 are currently pending.

Examiner amendment

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follow:

In The Abstract:

SYSTEM FOR LOCATING A MOBILE UNIT

A wireless local area network (LAN) comprises an access point which transmits a beacon signal at 0 dBm. The detection threshold of the mobile unit is -65 dBm and thus the mobile unit is detected when located within 10 meters of the access point.

~~—[Figure 4]—~~

In the Specification:

FIG. 11 shows the wireless local area network of ~~FIG. 1 deployed in a~~
~~room in another configuration.~~

Examiner Remark

2. The abstract filed on 01/28/2005 is deficient. A corrected abstract is a single paragraph. Thus the Examiner removed/cross out the "[Figure 4]" from the abstract. On page 3 of specification, Brief description of drawing filed on 01/28/2005 is deficient (Brief Description of Drawing includes a description of each Figure, and only those Figures). Therefore, the Examiner removed/cross out "FIG. 1"

Reasons for Allowance

2. The following is an examiner's statement of reasons for allowed:

Claims 1-16 and 18-19 are allowed.

Regarding claim 1, the prior art record fails to anticipate or render obvious a system for locating a mobile unit including:

means for transmitting a first signal at a relatively high power, from an access point;

means for transmitting a second signal at a predetermined, relatively low power, from said access point;

means for receiving said first signal, at a mobile device; means for determining a first signal strength of said first signal at said means for receiving said first signal;

means for determining whether said first signal strength exceeds a relatively low threshold level so as to determine whether service may be provided; means for receiving said second signal, at said mobile device;

means for determining a second signal strength of said second signal received at said means for receiving said second signal;

means for determining whether said second signal strength exceeds a relatively high threshold level so as to locate the mobile unit within a known distance of said means for transmitting said second signal, all limitations in combination as defined by applicant.

Regarding claim 18, the prior art record fails to anticipate or render obvious a system for locating a mobile unit including:

a first transmitter for transmitting a first signal at a relatively high power, from an access point ;

a second transmitter for transmitting a second signal at a predetermined, relatively low power, from said access point;

a first receiver for receiving said first signal, at a mobile unit;

a first detector for determining a first signal strength of said first signal at said first receiver; a first controller for determining whether said first signal strength exceeds a relatively low threshold level so as to determine whether service may be provided;

a second receiver for receiving said second signal, at said mobile unit;

a second detector for determining a second signal strength of said second signal at said second receiver;

a second controller for determining whether said second signal strength exceeds a relatively high threshold level so as to locate the mobile unit within a known distance of said

means for transmitting said second signal, all limitations in combination as defined by applicant.

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submission should be clearly labeled "Comments on Statement of Reasons for Allowance."


Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dai A Phuong whose telephone number is 571-272-7896. The examiner can normally be reached on Monday to Friday, 9:00 A.M. to 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nguyen M Duc can be reached on 571-272-7503. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dai Phuong
AU: 2617
Date: 12/29/2007


DUC M. NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

SYSTEM FOR LOCATING A MOBILE UNIT

A wireless local area network (LAN) comprises an access point which transmits a beacon signal at 0 dBm. The detection threshold of the mobile unit is -65 dBm and thus the mobile unit is detected when located within 10 meters of the access point.

at a predetermined, relatively low power, a first receiver for receiving said first signal, a first detector for determining a first signal strength of said first signal at said first receiver, a first controller for determining whether said first signal strength exceeds a relatively low threshold level so as to determine whether
5 service may be provided, a second receiver for receiving said second signal, a second detector for determining a second signal strength of said second signal at said second receiver, a second controller for determining whether said second signal strength exceeds a relatively high threshold level so as to locate the mobile unit within a known distance of said means for transmitting said
10 second signal.

According to the present invention there is also provided a method of operating the system.

Embodiments of the present invention will now be described, by way of
15 example with reference to the accompanying drawings, in which:

Figure 1 is a schematic diagram of a wireless local area network;

Figure 2 is a schematic diagram of an access point

Figure 3 is a schematic diagram of a mobile unit;

Figure 4 shows the wireless local area network of Figure 1 deployed in
20 a room;

Figure 5 shows a relationship between power of a signal received at a mobile unit and distance between the mobile unit and a transmitter;

Figure 6 is a plot of transmitted power against time;

Figure 7 is a plot of detection threshold against time;

25 Figure 8 is another plot of transmitted power against time;

Figure 9 is another plot of transmitter power against time;

Figure 10 shows regions in which a mobile unit may be located and

Figure 11 shows the wireless local area network of Figure 1 deployed in
a room in another configuration.

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Referring to Figure 1, a system for locating a mobile unit according to the present invention is shown. The system comprises a wireless local access